

EXHIBIT D

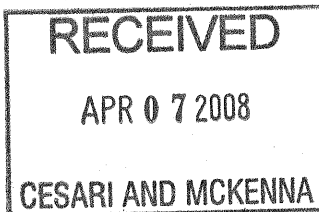


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EXAMINER

MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
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3992

MAIL DATE	DELIVERY MODE
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04/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**Transmittal of Communication to Third Party Requester
Inter Partes Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,324.

PATENT NUMBER 6,857,001.

TECHNOLOGY CENTER 3999.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

**ORDER GRANTING/DENYING
REQUEST FOR INTER PARTES
REEXAMINATION**

Control No.

95/000,324

Examiner

James Menefee

Patent Under Reexamination

6,857,001

Art Unit

3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

The request for *inter partes* reexamination has been considered. Identification of the claims, the references relied on, and the rationale supporting the determination are attached.

Attachment(s): ☐ PTO-892 ☒ PTO/SB/08 ☐ Other: _____

1. ☒ The request for *inter partes* reexamination is GRANTED.

☒ An Office action is attached with this order.

☐ An Office action will follow in due course.

2. ☐ The request for *inter partes* reexamination is DENIED.

This decision is not appealable. 35 U.S.C. 312(c). Requester may seek review of a denial by petition to the Director of the USPTO within ONE MONTH from the mailing date hereof. 37 CFR 1.927. EXTENSIONS OF TIME ONLY UNDER 37 CFR 1.183. In due course, a refund under 37 CFR 1.26(c) will be made to requester.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Order.

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ORDER GRANTING REEXAMINATION REQUEST

A substantial new question of patentability (“SNQ”) affecting claims 1-63 of U.S. Patent No. 6,857,001 (“the ‘001 patent”) is raised by the *inter partes* reexamination request filed 2/8/2008 (“Request”). A first action on the merits accompanies this Order.

References

- Ylonen et al., Concurrent Shadow Paging: Snapshots, Read-Only Transactions, and On-The-Fly Multi-Level Incremental Dumping, TKO-B104, Laboratory of Information Processing Science Helsinki Univ. of Tech., 1993¹ (“Ylonen”).
- Hitz et al., File System Design for an NFS File Server Appliance, TR 3002, USENIX, Jan. 19, 1994 (“Hitz”).
- Veritas File System 3.4 Administrator’s Guide, Nov. 2000 (“VxFS”).
- Siddha et al., A Persistent Snapshot Device Driver for Linux, Proc. of the 5th Annual Linux Showcase & Conference, USENIX, Nov. 2001 (“Siddha”).
- Sun StorEdge Instant Image 2.0 System Administrator’s Guide, Feb. 2000 (“Sun”).
- Suresh Babu S, Persistent Snapshots, Indian Inst. of Science, Bangalore, Jan. 2000 (“Siddha Report”).
- Czezatke et al., LinLogFS: A Log-Structured File system for Linux, Proc. of FREENIX Track: 2000 USENIX Annual Technical Conference, Jun. 2000, USENIX (“Czezatke”).

¹ The examiner agrees with the Request that, while Ylonen is undated, the other reference to Ylonen (provided in the Request, not cited herein) provides evidence of the date of publication of Ylonen.

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- The Enterprise Challenge Served by Snapshot, LSI Logic Whitepaper, 2001 (“LSI Logic”).
- Osorio et al., Guidelines for Using Snapshot Storage Systems for Oracle Databases, Oct. 2001² (“Osorio”).
- U.S. Patent No. 6,341,341 to Grummon et al. (“Grummon”).
- U.S. Patent No. 5,675,802 to Allen et al. (“Allen”).
- U.S. Patent No. 6,795,966 to Lim et al. (“Lim”).

² The Request lists the date as Aug. 2000, as noted on p. 1 of the reference. The examiner does not agree the reference should be given this date. The reference itself is clearly dated on the cover and at the bottom of each page as Oct. 2001. While, according to page 1, a version was apparently completed in Aug. 2000, there is no indication that this version was ever disseminated to anyone, see generally MPEP 2128, and indeed it is not even apparent what exactly was included in that version. While apparently the Oct. 2001 version revised section 5, the examiner has nothing more than this sentence fragment to determine the extent of what was in the Aug. 2000 version. In light of these factors, as the only evidence provided of any potential dissemination to the public is that of the actually provided Oct. 2001 reference, the examiner will only use the date of the actual reference that is in the record.

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Prosecution History

The '001 patent was filed as application number 10/165,188 on 6/7/2002 and issued 2/15/2005. The patent is drawn to multiple concurrent active file systems. Title. A second file system is created as a snapshot of the first file system, and the file systems initially share data; rather than copying data directly to the snapshot, the snapshot simply includes pointers to the original data, data is shared between them. When data is modified, the original data is then copied to the snapshot, so that the snapshot maintains a point-in-time image of the data at the time the snapshot was created. This technique—sharing unmodified data and creating a copy only when there is a modification—is known in the art as the copy-on-write technique as described in many of the references cited in this Order. The snapshot may further be made writable; this is the alleged difference between the '001 patent and the prior art, where snapshots are typically read-only, and is the crux of the invention, see col. 1 lines 33-43. This is described as having several advantages as noted in col. 1. Making the snapshot writable provides the second active file system.

Thus, when changes are made to one of the file systems, the modification of data is stored in an area not shared with the other file system—when original data is modified, the first file system gets the modification, while the second file system (snapshot) maintains the original data via copy-on-write; if the snapshot is modified the change is not shared with the original file system. In this way, the information in the file systems may diverge, as the modified data in each will differ from the other, while unmodified data remains shared between them. In the first action on the merits, the examiner rejected all the claims as anticipated by a reference to Midgeley. In response patent owner amended certain dependent claims, added claims 60-63, and

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traversed the rejections, arguing that Midgely is not drawn to file systems, and further that Midgely lacked the feature that changes made to one file system are not reflected in the other file system. The examiner maintained the rejections in a final rejection, including a rejection of the newly added claims.

In an after-final amendment, patent owner amended some independent claims and argued against the rejections as to others. In response, the examiner agreed with the patent owner's remarks and allowed the case, stating the reasons for allowance as the prior art failing to teach the following limitations:

Independent claims 1, 20, 39, and 58: "wherein changes made to each of the active file systems are not reflected in the active file system with which the changed active file system shares the data."

Independent claims 10, 29, 48, 59: "converting the snapshot to a second active file system by making the snapshot writable, with changes made to the first active file system not reflected in the second active file system, and with changes made to the second active file system not reflected in the first active file system."

Independent claim 60: "modifying a first portion of the original non-organizational data of the first active file system in response to a first active file system access request, resulting in a modified first portion being part of first modified non-organizational data of the first active file system; and the snapshot points to the original non-organizational data, the organizational data of the first active file system point to the first modified non-organizational data of the first filing system, and the original non-organizational data and the first modified non-organizational data partially overlap."

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All of the claims share a common theme: the file systems share data, but changes to one of the active file systems are not reflected in the other active file system. As the examiner stated that such limitations were not present in the prior art, patents or printed publications that teach these limitations would have been important to a reasonable examiner in determining the patentability of the claims.

SNQ Standard

For a SNQ to be present, it is only necessary that (A) the prior art patents and or printed publications raise a substantial question of patentability as to the claims, i.e. the teaching of the prior art patents and printed publications is such that a reasonable examiner would consider the teaching to be important in deciding whether the claim is patentable; it is not necessary for the prior art to raise a *prima facie* case of unpatentability; and (B) the same question of patentability has not been decided by the Office in a previous examination of the patent or in a final holding of invalidity or unenforceability by a federal court.

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Proposed SNQs

The Request indicates that the cited references raise SNQs as follows. See Request pp. 2-3 listing the SNQs. Claim charts are also provided pointing out how the references allegedly meet the claims, and are cited below.

1. Hitz and Ylonen raise a SNQ as to claims 1-63. Request pp. 8-58.
2. VxFS raises a SNQ as to claims 1-63. Request pp. 58-75.
3. Siddha raises a SNQ as to claims 1-63. Request pp. 76-99.
4. Sun raises a SNQ as to claims 1-59. Request pp. 99-112.
5. Siddha Report raises a SNQ as to claims 1-63. Request pp. 112-140.
6. Czeatke raises a SNQ as to claims 1-6, 10-12, 14-15, 20-25, 29-33, 39-44, and 48-52.
Request pp. 140-153.
7. LSI Logic raises a SNQ as to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50. Request pp. 154-168.
8. Osorio raises a SNQ as to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50. Request pp. 168-174.
9. Grummon raises a SNQ as to claims 1, 10, 20, 29, 39, and 48. Request pp. 174-176.
10. Allen raises a SNQ as to claims 1, 10, 20, 29, 39, and 48. Request pp. 176-178.
11. Lim raises a SNQ as to claims 1, 10, 20, 29, 39, and 48. Request pp. 178-181.

The examiner does not agree that Issue 10 raises a SNQ. The examiner agrees that the remaining Issues raise a SNQ as to claims 1-63. A discussion of the specifics follows:

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Discussion of the References Pertaining to the Alleged SNQs

Issue 1:³

It is agreed that Hitz and Ylonen raise a SNQ as to claims 1-63.

Ylonen describes a database system where snapshots are taken of the database; a snapshot is a transaction consistent copy of the entire database. See section 3. As discussed in section 3.4, the snapshot is a copy-on-write copy of the database; therefore at creation, the snapshot and the original file system point to the same data, i.e. they share data, and when data in the original is modified the old data is first copied; the original will point to the modified data, and the snapshot points to the old data. The copy-on-write process is known in the art. Section 3.4 also describes snapshots as modifiable, and that such modifications will not affect any other copies. Thus, the snapshot is writable, and changes to the snapshot will not be reflected in the original database. Likewise, as the snapshot is a point in time copy-on-write copy of the database, later changes to the original database are not reflected in the snapshot.

Ylonen does not explicitly refer to active file systems, but refers to databases. As discussed in the '001 patent, an active file system is defined—in a section called Lexicography—as “In general . . . a set of data that can be accessed and modified.” Both Ylonen’s original database and snapshot appear to fit this description and therefore may be deemed active file systems. The Request further provides Hitz to show that the shadow paging technique, which is used in Ylonen, see Title, is often used in databases but can also be used in file systems. Thus, there would appear to be ample evidence that Ylonen’s system either describes file systems or alternatively can be used with file systems.

³ The Issues are as set forth in the preceding section.

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Ylonen, in light of Hitz, therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Ylonen and Hitz appear to disclose what was found lacking in the original prosecution, along with the item matching of Ylonen and Hitz to claims 1-63 as provided in the Request, a reasonable examiner would have found Ylonen and Hitz important in considering the patentability of these claims.

The teachings of Ylonen and Hitz discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 2:

It is agreed that VxFS raises a SNQ as to claims 1-63.

VxFS is a file system, and chapter 8 pp. 81-98 describes storage checkpoints for the file system. The checkpoint creates an image of the file system at a point in time. See p. 82. At creation the checkpoint itself does not include any data, it merely points to the block map of the primary fileset; i.e., it shares data with the primary file system. See p. 83. When the original file system is modified, the original data is copied to the storage checkpoint prior to the modification of the original file system. See pp. 84-85. This is a description of the copy-on-write technique. Thus, changes to the original file system are not reflected in the storage checkpoint. VxFS

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further states that a storage checkpoint can be writable. See p. 86 (“You can . . . write to a Data Storage Checkpoint just as you would to a file system.”). You can write, access, and mount the Data Storage Checkpoint just as a file system, thus the checkpoint can also be considered an active file system. See ‘001 patent col. 4 lines 27-28. VxFS also notes that when a storage checkpoint is written to, you will lose the original image. See p. 89 (“Caution”). Thus, changes made by writing to the storage checkpoint are not reflected in the original file system.

VxFS therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the ‘001 patent.

Given the above teachings showing that VxFS appears to disclose what was found lacking in the original prosecution, along with the item matching of VxFS to claims 1-63 as provided in the Request, a reasonable examiner would have found VxFS important in considering the patentability of these claims.

The teachings of VxFS discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 3:

It is agreed that Siddha raises a SNQ as to claims 1-63.

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Siddha describes a file system, section 1, and describes snapshots of the file system, section 1.1. The snapshot is created using a copy-on-write technique; at creation, the snapshot and the original file system point to the same data, i.e. they share data, and when data in the original is modified the original data is first copied; the original will point to the modified data, and the snapshot points to the original data. See section 1.1, Fig. 1. Siddha also describes the snapshot as writable, see section 3.1.3 and Fig. 4; as the snapshot can be read and modified it can be deemed an active file system, see '001 patent col. 4 lines 27-28. Writes to a writable snapshot are written directly to the snapshot, see Siddha section 3.1.3, i.e. they are not written into the original file system. Thus, changes to the original file system are not reflected in the snapshot, and changes in the snapshot are also not reflected in the original file system.

Siddha therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Siddha appears to disclose what was found lacking in the original prosecution, along with the item matching of Siddha to claims 1-63 as provided in the Request, a reasonable examiner would have found Siddha important in considering the patentability of these claims.

The teachings of Siddha discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

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Issue 4:

It is agreed that Sun raises a SNQ as to claims 1-59.

Sun describes a system including a master volume of original data and a shadow volume that is a copy of the master volume. See p. 1-5. "Once the shadow is created, you can read from and write to this shadow volume—and also the master volume." P. 1-2. Both the shadow and master volumes therefore appear to be active file systems. See '001 patent col. 4 lines 27-28. A dependent shadow volume relies on the master for unmodified data; there is no full copy, or there are not two physical copies of the data. See p. 1-6. In other words, the master and shadow share any unmodified data. The dependent shadow volume is a point in time view that only duplicates data when required, i.e. when the master is modified. See pp. 1-5 to 1-6. When the shadow is written to, it no longer matches the master. See p. 1-6. Thus, changes to the master are not reflected in the shadow, and changes in the shadow are also not reflected in the master.

Sun therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Sun appears to disclose what was found lacking in the original prosecution, along with the item matching of Sun to claims 1-59 as provided in the Request, a reasonable examiner would have found Sun important in considering the patentability of these claims.

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The teachings of Sun discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 5:

It is agreed that Siddha Report raises a SNQ as to claims 1-63.

Siddha Report describes a file system, Ch. 1 Introduction, and describes snapshots of the file system, section 1.1. The snapshot is created using a copy-on-write technique; at creation, the snapshot and the original file system point to the same data, i.e. they share data, and when data in the original is modified the original data is first copied; the original will point to the modified data, and the snapshot points to the original data. See section 1.1, Fig. 1.2. Siddha Report also describes the snapshot as writable, see section 2.1.3 and Fig. 2.3; as the snapshot can be read and modified it can be deemed an active file system, see '001 patent col. 4 lines 27-28. Writes to a writable snapshot are written directly to the snapshot, see Siddha Report section 2.1.3, i.e. they are not written into the original file system. Thus, changes to the original file system are not reflected in the snapshot, and changes in the snapshot are also not reflected in the original file system.

Siddha Report therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

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Given the above teachings showing that Siddha Report appears to disclose what was found lacking in the original prosecution, along with the item matching of Siddha Report to claims 1-63 as provided in the Request, a reasonable examiner would have found Siddha Report important in considering the patentability of these claims.

The teachings of Siddha Report discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 6:

It is agreed that Czezatke raises a SNQ as to claims 1-6, 10-12, 14-15, 20-25, 29-33, 39-44, and 48-52.

Czezatke describes a file system, Title, and also mentions the use of writable snapshots, section 1. Czezatke describes a copy-on-write technique where new data does not overwrite original data; the change is instead written elsewhere, and the original data is left as is, while unchanged data remains shared. Section 2.2. A snapshot or clone shares data with its parent file system; as a snapshot is a point in time image, changes in the file system will not be present in the clone. Changes in the clone are also not reflected in the parents. See section 3.3 (discussing tracking of changes).

Czezatke therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the

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other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Czezatke appears to disclose what was found lacking in the original prosecution, along with the item matching of Czezatke to claims 1-6, 10-12, 14-15, 20-25, 29-33, 39-44, and 48-52 as provided in the Request, a reasonable examiner would have found Czezatke important in considering the patentability of these claims.

The teachings of Czezatke discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 7:

It is agreed that LSI Logic raises a SNQ as to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50.

LSI Logic describes a storage system and describes snapshots taken of the system. See p. 2. The snapshot is created using a copy-on-write technique, see p. 3, thus at creation the snapshot and the original file system point to the same data, i.e. they share data. Both the original volume and the snapshot can be accessed and modified, see p. 2, therefore each can be deemed an active file system, see '001 patent col. 4 lines 27-28. When the snapshot is written to, it overwrites the point in time image with the change, see p. 4, therefore the changes to the snapshot will not be reflected in the original disk. Similarly, as a snapshot is a point in time image, it will not reflect changes that are made at a different time. Thus, changes to the original

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file system are not reflected in the snapshot, and changes in the snapshot are also not reflected in the original file system.

LSI Logic therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that LSI Logic appears to disclose what was found lacking in the original prosecution, along with the item matching of LSI Logic to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50 as provided in the Request, a reasonable examiner would have found LSI Logic important in considering the patentability of these claims.

The teachings of LSI Logic discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 8:

It is agreed that Osorio raises a SNQ as to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50.

Osorio describes snapshot storage technology used with databases. See p. 3. The snapshot may be created using a copy-on-write technique; at creation, the snapshot and the original point to the same data, i.e. they share data, and when data in the original is modified the original data is first copied; the original will point to the modified data, and the snapshot points

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to the original data. See p. 4. Osorio also describes the snapshot as writable, as it is essentially a new database started with a copy of the original. See p. 7. Both the snapshot and the original database are collections of data that can be read and modified and therefore can be deemed an active file system, see '001 patent col. 4 lines 27-28. It is also noted that the second instance, i.e. the snapshot, is totally independent from and other database, therefore any changes in either the snapshot or the original will not be reflected in the other.

Osorio therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Osorio appears to disclose what was found lacking in the original prosecution, along with the item matching of Osorio to claims 1-5, 10-12, 20-24, 29-31, 39-43, and 48-50 as provided in the Request, a reasonable examiner would have found Osorio important in considering the patentability of these claims.

The teachings of Osorio discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 9:

It is agreed that Grummon raises a SNQ as to claims 1, 10, 20, 29, 39, and 48.

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Grummon describes a file system and snapshots taken of the file system. See Fig. 3; col. 6 line 66 – col. 7 line 63. The snapshot is created using a copy-on-write technique; therefore, at creation, the snapshot and the original file system point to the same data, i.e. they share data, and when data in the original is modified the original data is first copied; the original will point to the modified data, and the snapshot points to the original data. The copy-on-write process is known in the art, and also described at col. 3 lines 5-23. Grummon also describes the snapshot as writable, see col. 4 lines 23-26; as the both the snapshot and the readable container are sets of data that can be read and modified, they each can be deemed an active file system, see '001 patent col. 4 lines 27-28. As in the typical copy-on-write, writes to the original are not reflected in the snapshot. The bit map determines whether data is mapped to the original container or to the snapshot, see col. 7 lines 25-33; because it makes this distinction, it appears that writes by the snapshot are not reflected in the original. Thus, changes to the original file system are not reflected in the snapshot, and changes in the snapshot are also not reflected in the original file system.

Grummon therefore appears to describe a system including multiple active file systems that initially share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Grummon appears to disclose what was found lacking in the original prosecution, along with the item matching of Grummon to claims 1, 10, 20, 29, 39, and 48 as provided in the Request, a reasonable examiner would have found Grummon important in considering the patentability of these claims.

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The teachings of Grummon discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

Issue 10:

It is not agreed that Allen raises a SNQ as to claims 1, 10, 20, 29, 39, and 48.

Allen describes a system for geographically distributed software development, allowing different lines of development to proceed in parallel at different sites. As shown in Fig. 2, described at col. 6 lines 16-58, there is a file system for viewing selected versions of files stored in a versioned object base (VOB). The VOB is a shared resource that includes data accessible by all developers, and includes current and historical versions of the files being developed, as well as other data. A user can view the files on the VOB via the virtual workstation, without copying versions into her physical workspace.

As shown in Fig. 1, described at col. 5 line 16 - col. 6 line 15, a user has access to all of the VOBs through her local workstation's mastership enforcer. An exporter 38 and importer 40 prepare copies of new versions of files to be sent to and from replicas at remote development sites.

It should be noted that while the VOB is described as a shared resource, and is indeed accessible at the various development sites, there is not an actual sharing of physical data. Instead, data is copied from the VOB as a replica to the local machine where the user performs her work. See abstract ("The storage device stores a *local replica* including a plurality of files;")

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also describing that the exchanger imports and exports data between the local replica and remote replicas); col. 8 lines 16-22 (describing that each site working on the same particular code has a VOB replica). Thus, a VOB is a shared resource, but physical data is not shared, each site merely gets a replica of the data when it is to be worked upon.

Allen further describes branches in Fig. 3, described at col. 6 line 59 – col. 7 line 55. The figure shows multiple branches of development of a file 52 at a local site, with each bubble 56 showing a separate version of the file. The Request alleges that this disclosure teaches the initial sharing of data between the branches, where the branches diverge over time and therefore changes in a branch are not reflected in another branch. See Request p. 7 (“Allen further teaches “branching” of the file trees, with each of the branches undergoing independent evolution from parent and sister branches. Col. 6:59-7:22, Fig. 3. As shown in Fig. 3, a branch initially shares data with the parent, but diverges over time, with changes not shared with the other branches. Therefore, Allen teaches plural active file trees, wherein changes made to each file tree are not reflected in the file trees with which the first tree initially shares data. Thus, Allen raises an SNQ with respect to at least claim 1 of the ‘001 patent.”) (this material is also repeated in the claim charts). The examiner disagrees with this assessment of the branches.

First, there is no indication or explicit discussion that the branches ever share physical data, thus all the examiner can go on is the interpretation of the reference. The Requester’s assertion that the branches share data is not well taken. Each bubble 56 in Fig. 3 is a distinct version of the file that is its own distinct piece of data that can be accessed. Thus 0 in MAIN differs from 0 in PORT and differs from 0 in BUG_FIXES; they are not the same physical data that is shared. Further, the branches, do not “share” data with the parent branch. It is clear, as

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noted by the labels 58 (denoting “branches”), that each branch consists of its distinct vertical collection of bubbles; PORT is the left 0 to 3, MAIN is the middle 0 to 6, and BUG_FIXES is the right 0 to 3. PORT is not 0-1-2-3-0-1-2, it does not start until it is branched off with the left most 0. This is reinforced because each branch is restarted with the number 0; if PORT were considered to “share” the earlier versions of MAIN, it might have been started with a label such as 4’, or something to the effect to indicate that it was not a separate and distinct branch, rather than 0. Further, there is no discussion of pointers, or anything to the effect that branches such as PORT share data with branches such as MAIN by pointing to the data contained in MAIN; in the ‘001 patent the sharing of data was accomplished by the snapshot pointing to the unmodified data included in the original file system. While such pointers are not claimed and are not read into the claims as a requirement of sharing data, they are yet another indication of sharing data that is not present in Allen.

As described above, the important limitations regarding patentability of the claims were the sharing of data among plural active file systems, where changes to any one of the file systems are not reflected in the other file system with which it shares the data. It is clear from the ‘001 patent that this “sharing” of data does not merely mean that the file systems have the same elements of data; we are not just talking about copies of the same data, but instead are dealing with sharing the same physical data that is stored. “After snapshot root inode 140 has been created, snapshot 130 and file system 100 actually share data on the storage device or devices. Thus, snapshot 130 preferably includes the same physical data 120 on the storage device or devices as file system 10 In other words, the snapshot and the file system overlap. This allows for rapid creation of snapshot 130 with efficient use of storage space and other system

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resources.” ‘001 patent, Col. 5 lines 9-17. Further, “to share” denotes plural parties using the same physical thing, and not merely having something in common.

In Allen, on the other hand, the plural active file systems, if the branches are to be considered as such, do not share data for the reasons described above. Further, the VOB, while a shared resource, is replicated at the remote sites so that its replica can be worked upon; it is only the replicas that diverge over time, and the replicas cannot be considered to be shared data. Allen therefore does not teach the sharing of data among plural active file systems, where changes to any one of the file systems are not reflected in the other file system with which it shares the data—the limitations important to the patentability of the claims in the original prosecution; Allen therefore would not have been important to a reasonable examiner in determining the patentability of the claims, and no SNQ is raised by Allen.

Issue 11:

It is agreed that Lim raises a SNQ as to claims 1, 10, 20, 29, 39, and 48.

Lim describes a computer system state checkpoint mechanism. See Title. The system periodically takes checkpoints, i.e. snapshots, of the system state so that the system can later be restored to that state. See abstract. Note that Lim describes the terms checkpoints and snapshots as interchangeable. Col. 2 lines 40-41; col. 3 lines 31-32. Various systems may be loaded with a common checkpoint that serves as the basis for more than one set of transactions, forming a checkpoint tree. It is noted that changes to the checkpoints may be done with a copy-on-write technique, therefore the various checkpoints may share data that is the same. As users perform different operations on the different checkpoints, new system states will result that will differ

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from one another; in this way the changes to the different checkpoints will not be reflected in the other checkpoints. See Fig. 5, cols. 20-21. Note that checkpoints are stored as state vectors; thus, they are a collection of data that may be accessed and modified. They therefore may be considered an active file system, see '001 patent col. 4 lines 27-28.

Lim therefore appears to describe a system including multiple active file systems that share data and where changes made to one of the file systems are not reflected in the other file system. These are the very features that were deemed to be lacking during the original prosecution of the '001 patent.

Given the above teachings showing that Lim appears to disclose what was found lacking in the original prosecution, along with the item matching of Lim to claims 1, 10, 20, 29, 39, and 48 as provided in the Request, a reasonable examiner would have found Lim important in considering the patentability of these claims.

The teachings of Lim discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts.

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NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS

Effective May 16, 2007, 37 CFR 1.33(c) has been revised to provide that:

The patent owner's correspondence address for all communications in an *ex parte* reexamination or an *inter partes* reexamination is designated as the correspondence address of the patent.

*Revisions and Technical Corrections Affecting
Requirements for Ex Parte and Inter Partes
Reexamination, 72 FR 18892 (April 16, 2007) (Final
Rule)*

The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination and Amendment Practice	(571) 272-7703
Central Reexam Unit (CRU)	(571) 272-7705
Reexamination Facsimile Transmission No.	(571) 273-9900

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Conclusion

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By U.S. Postal Service Mail to:

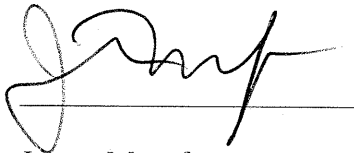
Mail Stop *Inter Partes* Reexam
ATTN: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand to: Customer Service Window
Randolph Building
401 Dulany St.
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Reexamination Legal Advisor or Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:



James Menefee
Primary Examiner
Central Reexamination Unit 3992
(571) 272-1944

April 2, 2008

Conferees:



PTO/SB/08a (11-07)

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

1

of

2

Complete if Known

Patent Number	6,857,001
Issue Date	February 15, 2005
First Named Inventor	Hitz et al.
Art Unit	N/A
Examiner Name	N/A
Attorney Docket Number	347155-29

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		us- 6,341,341	01-22-2002	Grummon et al.	
		us- 5,675,802	10-07-1997	Allen et al.	
		us- 6,795,966	09-21-2004	Lim et al.	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				

Examiner
Signature

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04/02/2008

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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Patent Number	6,857,001
		Issue Date	February 15, 2005
		First Named Inventor	Hitz et al.
		Art Unit	N/A
		Examiner Name	N/A
Sheet 2	of 2	Attorney Docket Number 347155-29	

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Hitz et. al, <i>File System Design For An NFS File Server Appliance</i> , TR3002, USENIX January 19, 1994 (hereinafter: "Hitz").	
		Ylonen et. al, <i>Concurrent Shadow Paging: Snapshots, Read-Only Transactions, and On-The-Fly Multilevel Incremental Dumping</i> , TKO-B104, Laboratory of Information Processing Science at Helsinki University of Technology, 1993 (hereinafter: "Ylonen"). Although this document is undated on its face, it is referenced in Ylonen et. al, <i>Concurrent Shadow Paging: Fine Granularity Locking with Support for Extended Lock Modes and Early Releasing of Locks</i> , Laboratory of Information Processing Science at Helsinki University of Technology (see Footnote [17], page 28), as being published in 1995.	
		Veritas File System 3.4 Administrator's Guide, November 2000 ("VxFS").	
		S. B. Siddha, K. Gopinath, <i>A Persistent Snapshot Device Driver for Linux</i> , Proceedings of the 5th Annual Linux Showcase & Conference, USENIX, Nov. 5-10, 2001 (hereinafter: "Siddha").	
		S. B. Siddha, <i>Persistent Snapshots</i> , A Project Report Submitted in partial fulfillment of the requirement for the Degree of Master of Engineering in Computer Science and Engineering, Indian Institute of Science, January, 2000 (hereinafter: "Siddha Report").	
		Sun StorEdge Instant Image 2.0 System Administrator's Guide, February 2000 (hereinafter: "Sun").	
		C. Czezatke, M. Anton Ertl, <i>LinLogFS - A log-structured Filesystem For Linux</i> , Proceedings of FREENIX Track: 2000 USENIX Annual Technical Conference, June 18-23, 2000 (hereinafter: "Czezatke").	
		The Enterprise Challenge Served By Snapshot, LSI Logic Whitepaper, 2001 (hereinafter: "LSI Logic Whitepaper").	
		N. Osorio and B. Lee, <i>Guidelines for Using Snapshot Storage Systems for Oracle Databases</i> , version 1 dated August 28, 2000 (hereinafter: "Osorio"), Oct. 2001	

Examiner Signature	/James Menefee/	Date Considered	04/02/2008
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